REMARKS/ARGUMENTS

Claims 1, 3, and 5-36 are pending in the present application. Claim 36 was canceled; claims 1, 3, 5-7, 33 and 34 were amended; and no claims were added.

Support for the amendments is found in the original claims, and in the specification, paragraph [0062], lines 5-8.

Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 101 (Claims 1-32)

The Examiner has rejected claims 1-32 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. Final Office Action dated October 16, 2009, pp. 4-5.

In rejecting claims 1-32, the Examiner states:

> Claims 1-32 are method claims that do not qualify as a statutory process because they cite purely mental steps, that could be performed in the human mind and that the presence of another statutory category, such as an apparatus, is not required to perform the method/process. Based on Supreme Court precedent and recent Federal Circuit decisions in re Bilski, Appeal No. 2007-1130, a statutory process must (1) be tired to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under 35 U.S.C. 101 and should be rejected as being directed to non-statutory subject matter. Thus, to qualify as a 35 U.S.C. 101 statutory process, the claim should positively recite the other statutory class (the thing of product) to which is tied, for example, by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state. Also see MPEP 2106.02. Although claims 27-36 and 44-49 recites "a computer implemented method, there is nothing in the claims which explicitly indicates what apparatus accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Final Office Action dated October 16, 2009, pp. 4-5.

Amended claim 1 now recites:

> A process for managing capacity resources in a shared computing environment comprising the steps of:
>
> gathering, by a processor of a computer, a plurality of capacity data for a capacity resource set, the capacity resource set including a central processing unit, a storage, a memory, a network hardware, and a plurality of peripheral devices;
>
> analyzing, by the processor, the capacity data by extracting one or more capacity obligations from a database and comparing the one or more capacity obligations with a plurality of identified existing resources to identify a first set of capacity obligations that can be met with the plurality of existing resources, and to identify a second set of capacity obligations that require a plurality of additional resources, and by analyzing, by the processor, a task control block versus a system resource block time required to move a plurality of workloads from one set of central processing unit engines to another set of central processing unit engines;
>
> generating, by the processor, a capacity plan for using the plurality of identified existing resources and the plurality of identified additional resources to meet the one or more capacity obligations.

Amended claim 1 recites "by a processor of a computer." Applicants submit that the amendment overcomes the rejection.

II. 35 U.S.C. § 112, Second Paragraph (Claims 1, 3, and 5-36)

The Examiner has rejected claims 1, 3, and 5-36 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. Final Office Action dated October 16, 2009, pp. 5-6.

In rejecting claims 1, 3, and 5-36, the Examiner states:

> Independent claim 1 recites "gathering a plurality of capacity data for a capacity resource set, the capacity resource set including a central processing unit, a storage, a memory, a network or telecommunications hardware, a plurality of peripheral devices". It is not clear whether the claimed capacity resource set includes one or more of the listed elements, or includes all of the listed elements. The examiner presumes for the sake of examination that the claimed limitation reads "gathering a plurality of capacity data for a capacity resource set, the capacity resource set including a central processing unit, a storage, a memory, a network or telecommunications hardware, or a plurality of peripheral devices". Similarly, independent claims 33 and 36 are interpreted as "a plurality of capacity

resources including a central processing unit, a storage, a memory, a network or telecommunications hardware, **or** a plurality of peripheral devices"

Final Office Action dated October 16, 2009, pp. 5-6.

Claim 1 has been amended to overcome the rejection. Claims 3 and 5-23 depend from claim 1. Claim 33 has been amended as well to overcome the rejection. Claims 34 and 35 depend from claim 33. Claim 36 has been cancelled.

Therefore the rejection of claims 1, 3, and 5-36 under 35 U.S.C. § 112, second paragraph has been overcome.

III. 35 U.S.C. § 112, Second Paragraph (Claims 1, 3, and 5-36)

The Examiner has rejected claims 1, 3, and 5-36 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. Final Office Action dated October 16, 2009, pp. 5-6.

In rejecting claims 1, 3, and 5-36, the Examiner states:

> Independent claims 1, 33 and 36 recites "identifying a plurality of future capacity planning issues based on a selection of a set of..." which is not positively recited since "a selection of' can be indicative of either "selection to include", or "selection to not include". The examiner presumes for the sake of examination that the claimed limitation reads "identifying a plurality of future capacity planning issues"

Final Office Action dated October 16, 2009, pp. 5-6.

Claim 1 has been amended to overcome the rejection. Claims 3 and 5-23 depend from claim 1. Claim 33 has been amended as well to overcome the rejection. Claims 34 and 35 depend from claim 33. Claim 36 has been cancelled.

Therefore the rejection of claims 1, 3, and 5-36 under 35 U.S.C. § 112, second paragraph has been overcome.

IV. 35 U.S.C. § 102, Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art," *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001). See also MPEP § 2131.02. "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements "arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983).

A. Claims 33-36

The Examiner has rejected claims 33-36 under 35 U.S.C. § 102 as being anticipated by Valdivia et al., U.S. Patent No. 6,904,265 (hereinafter "Valdivia"). Final Office Action dated October 16, 2009, pp. 7-8. This rejection is respectfully traversed.

In rejecting claims 33-36, the Examiner states:

> As to claim 33, Valdivia discloses a system for managing capacity resources in a shared computing environment comprising: a service provider (figure 4, "NSP"); a plurality of service obligations (figure 4, "Wholesaler-NSP Agreements", "NSP-BBS Agreements");
>
> a plurality of capacity resources including a central processing unit, a storage, a memory, a network or telecommunications hardware, a plurality of peripheral devices (see 112 rejection above and examiner's interpretation above; col. 5, lines 1-3, "allow ST to send a specific number of packets on a satellite's uplink to a specific Destination ST"; col. 4, lines 56-59, "rate allocation"; col. 1, lines 60-67, "system capacity...bandwidth includes resources for CPU, a network or telecommunications hardware, etc."); and
>
> a capacity planner that produces and maintains a capacity plan (see similar rejection to claim 1), wherein the capacity plan substantially identifies current and needed capacity resources and substantially describes the allocation of the current and needed capacity resources (col. 9, lines 11-18, "actual usage and interference statistics are available for the operator to determine which cells have excess capacity as well as the cells that are running short of capacity"), and executes the capacity plan so that the service provider meets all service obligations (col. 23,

lines 5-20, "based on...contract agreement between the wholesaler and NSP... reconfigure capacity resources");

identifying a plurality of future capacity planning issues based on a selection of a set of projection methodologies including business drivers, linear regression, percent change, direct customer input, and historical trend data (see 112 rejection and examiner's interpretation above; see col. 6, lines 43-45, "determine downlink traffic demands based on scheduled connections, traffic models, and trend information").

As to claim 34, Valdivia et al disclose the system of claim 32 wherein the capacity planner further handles capacity requests (figure 5, "Capacity Request").

As to claim 35, Valdivia et al discloses the system of claim 33 wherein the capacity planner further reviews capacity requests to identify capacity issues that should be resolved in a future capacity plan (figure 5; col. 23, lines 5-30).

As to claim 36, see similar rejection to claims 33-35.

Final Office Action dated October 16, 2009, pp. 7-8.

Amended claim 33 recites:

> A system for managing capacity resources in a shared computing environment comprising:
>
> a service provider;
>
> a plurality of service obligations;
>
> a plurality of capacity resources including a central processing unit, a storage, a memory, a network hardware, and a plurality of peripheral devices; and
>
> a capacity planner that produces and maintains, by a processor, a capacity plan, wherein the capacity plan substantially identifies current and needed capacity resources and substantially describes the allocation of the current and needed capacity resources, and executes the capacity plan so that the service provider meets all service obligations, that analyzes, by the processor, a task control block versus a system resource block time required to move a plurality of workloads from one set of central processing unit engines to another set of central processing unit engines and that identifies a plurality of future capacity planning issues based on a set of projection methodologies including business drivers, linear regression, percent change, direct customer input, and historical trend data.

Amended claim 33 now recites "a plurality of capacity resources including a central processing unit, a storage, a memory, a network hardware, and a plurality of peripheral devices." Valdivia is silent in regard to the foregoing limitation.

Amended claim 33 now recites "that analyzes, by the processor, a task control block versus a system resource block time required to move a plurality of workloads from one set of central processing unit engines to another set of central processing unit engines." Valdivia is silent in regard to the foregoing limitation.

Claims 34 and 35 depend from claim 33. Claim 36 has been cancelled. Therefore, the rejection of claims 33-36 under 35 U.S.C. § 102 has been overcome.

V. 35 U.S.C. § 103, Obviousness

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are… determined; differences between the prior art and the claims at issue are… ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). "Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). "*Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.* Id. (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006))."

A. 35 U.S.C. § 103, Obviousness (Claims 1, 3, 5-10, 13, 16-18, 22-26, and 28-32)

The Examiner has rejected claims 1, 3, 5-10, 13, 16-18, 22-26, and 28-32 under 35 U.S.C. § 103 as being unpatentable over Valdivia as applied to claim 33 and further in view of Wickham et al., U.S. Patent No. 6,307,546 (hereinafter "Wickham"). Final Office Action dated October 16, 2009, pp. 8-22. This rejection is respectfully traversed.

In rejecting claims 1, 3, 5-10, 13, 16-18, 22-26, and 28-32, the Examiner states:

> As to claim 1, Valdivia et al discloses a computer-implemented process for managing capacity resources in a shared computing environment comprising the steps of:
>
> gathering a plurality of capacity data for a capacity resource set, the capacity resource set including a central processing unit, a storage, a memory, a network or telecommunications hardware, a plurality of peripheral devices (see 112 rejection and examiner's interpretation above; see col. 1, line 60 - col. 2, line

5, "generating a capacity plan ... selectively allocate bandwidth to the terminal in response to the bandwidth request messages. Under this approach, the capacity requirements of multiple service providers can be efficiently managed"; col. 1, lines 60-67, "system capacity...bandwidth includes resources for CPU, a network or telecommunications hardware, etc.);

analyzing the capacity data by extracting capacity obligations from a database (col. 17, lines 58-67, "capacity resource configuration database") and comparing the capacity obligations with existing resources to identify capacity obligations that can be met with existing resources (col. 22, lines 57-67, "(1) the required services can be provided based on current system configuration of capacity resources"), and to identify capacity obligations that require additional resources (col. 22, lines 57-67, "(2) the required services can be provided, but would require reconfiguration of system capacity resources");

generating the capacity plan for using the identified existing resources and the identified additional resources to meet capacity obligations (col. 23, lines 5-18; figure 5, "Capacity Resource Configuration");

gaining approval for the capacity plan from one or more persons with the authority to commit to the implementation of the capacity plan (figure 5, "negotiation"; col. 23, lines 5-18, "negotiation between the wholesaler and NSP...authorizes");

notifying any parties to the capacity plan of the plan details (col. 23, lines 5-18, "the wholesaler instructs the NOC 107 to reconfigure capacity resources"). handling capacity requests from a requester (col. 1, line 60 - col. 2, line 5, "The remote processor is configured to process bandwidth request messages from the terminal; figure 5, "Capacity Request");

performing analysis review on capacity requests to identify capacity issues (figure 5, "Capacity Analysis Request", "Analysis Response"); and

executing a problem manager program in a data-processing system to resolve any identified capacity issues so that a service provider can meet all service obligations (col. 1, line 60 - col. 2, line 5, "generating a capacity plan ... selectively allocate bandwidth to the terminal in response to the bandwidth request messages. Under this approach, the capacity requirements of multiple service providers can be efficiently managed"; col. 13, lines 17-30, "allocating uplink resources based on congestion parameters and discarding packets when congestion occurs or is imminent...contend for resources in an orderly fashion as prescribed by the service capabilities, which the ST is provisioned and to respond to congestion information sent from the payload");

identifying a plurality of future capacity planning issues based on a selection of a set of projection methodologies including business drivers, linear regression, percent change, direct customer input, and historical trend data (see similar rejection to claim 33 above).

Valdivia et al, however, does not expressly disclose responsive to determining that the capacity data is not already available, contacting the capacity data owner; requesting the capacity data; and justifying the request for the capacity data to the capacity data owner. Wickham discloses responsive to determining that the capacity data is not already available (col. 10, lines

52-56, "determine whether the requested objects have already been retrieved"), contacting the capacity data owner (col. 10, lines 60-62); requesting the capacity data; and justifying the request for the capacity data to the capacity data owner (col. 10, lines 51-57).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the teachings disclosed by Valdivia, with the teachings disclosed by Wickham regarding determining if the requested data is already available; acquiring the requested data from the database; validating the requested data; determining if there is a regular need for the data; and updating and documenting the database. The suggestion/motivation of the combination would have been to improve efficiency (Wickham, col. 10, line 63, "lazy" retrieval).

Final Office Action dated October 16, 2009, pp. 8-22.

Amended claim 1 now recites:

A process for managing capacity resources in a shared computing environment comprising the steps of:

gathering, by a processor of a computer, a plurality of capacity data for a capacity resource set, the capacity resource set including a central processing unit, a storage, a memory, a network hardware, and a plurality of peripheral devices;

analyzing, by the processor, the capacity data by extracting one or more capacity obligations from a database and comparing the one or more capacity obligations with a plurality of identified existing resources to identify a first set of capacity obligations that can be met with the plurality of existing resources, and to identify a second set of capacity obligations that require a plurality of additional resources, and analyzing, by the processor, a task control block versus a system resource block time required to move a plurality of workloads from one set of central processing unit engines to another set of central processing unit engines;

generating, by the processor, a capacity plan for using the plurality of identified existing resources and the plurality of identified additional resources to meet the one or more capacity obligations.

Amended claim 1 now recites "a plurality of capacity resources including a central processing unit, a storage, a memory, a network hardware, and a plurality of peripheral devices." The cited art, individually or in combination, is silent in regard to the foregoing limitation.

Amended claim 1 now recites "that analyzes, by the processor, a task control block versus a system resource block time required to move a plurality of workloads from one set of central processing unit engines to another set of central processing unit engines." The cited art, individually or in combination, is silent in regard to the foregoing limitation.

Claims 3, 5-10, 13, 16-18, 22-26, and 28-32 depend from claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Therefore, the rejection of claims 1, 3, 5-10, 13, 16-18, 22-26, and 28-32 under 35 U.S.C. § 103 has been overcome.

B. 35 U.S.C. § 103, Obviousness (Claims 11, 14, 15, 19, and 20)

The Examiner has rejected claims 11, 14, 15, 19, and 20 under 35 U.S.C. § 103 as being unpatentable over Valdivia in view of Wickham as applied to claim 1, and further in view of Wichelman et al., U.S. Patent No. 6,853,932 (hereinafter "Wichelman"). Final Office Action dated October 16, 2009, pp. 22-24.

Claims 11, 14, 15, 19 and 20 depend from claim 1. All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Therefore, the rejection of claims 11, 14, 15, 19, and 20 under 35 U.S.C. § 103 has been overcome.

C. 35 U.S.C. § 103, Obviousness (Claim 27)

The Examiner has rejected claim 27 under 35 U.S.C. § 103 as being unpatentable over Valdivia in view of Wickham as applied to claim one, and further in view of Official Notice. Final Office Action dated October 16, 2009, page 25.

Claim 27 depends from claim 1. All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Therefore, the rejection of claim 27 under 35 U.S.C. § 103 has been overcome.

D. 35 U.S.C. § 103, Obviousness (Claims 12 and 21)

The Examiner has rejected claims 12 and 21 under 35 U.S.C. § 103 as being unpatentable over Valdivia in view of Wickham and Wichelman as applied to claim 11 and further in view of Whitman, Jr., U.S. Patent No. 7,499,844 (hereinafter "Whitman"). Final Office Action dated October 16, 2009, pp. 25-26.

Claims 12 and 21 depend from claim 1. All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Therefore, the rejection of claims 12 and 21 under 35 U.S.C. § 103 has been overcome.

VI. Objection to Claims (Claims 3, 5, 6, and 34)

The Examiner has stated that claims 3, 5, 6, and 34 were objected to due to the following informalities:

> Claims 3 and 5-6 depends on a canceled claim; claim 34 recites the system of claim 32; however, claim 32 is not a system claim. For the sake of examination, the examiner assumes claims 3 and 5-6 depend on claim 1; claim 34 depends on claim 33. Appropriate correction is required.

In response, the claims have been rewritten to overcome this objection.

VII. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: January 13, 2010

Respectfully submitted,

/Rudolf O. Siegesmund/

Rudolf O. Siegesmund
Reg. No. 37,720
Yee & Associates, P.C.
P.O. Box 802333
Dallas, TX 75380
(972) 385-8777
Attorney for Applicants